THE PRODUCTION OF BIODIESEL IN THE PRESENCE OF CATALYST

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ABSTRACT

THE PRODUCTION OF BIODIESEL IN THE PRESENCE OF CATALYST

Biodiesel has been obtained by transesterification of palm oil with methanol in the presence of potassium hydroxide (KOH) as base catalyst and ES-CAT5500 as acid catalyst. Transesterification is a process of converting triacylglycerol to methyl ester. Parameter such as temperature, the type of reactant, amount and type catalyst used in this study is carefully manipulated since each parameters are dependent on each other and efficiency of transesterification process is based on these parameters. The yield of base biodiesel obtained in this study is 95.09% while the yield of acid biodiesel is 74.54%. Qualitative analysis of biodiesel is determined by using GCMS. Percent recovery of biodiesel is calculated by analyzing with GC-FID. The energy content in each biodiesel also is determined by using bomb calorimeter. Base biodiesel shows the amount of energy content of 39368J/g and 38888J/g is obtained from acid-biodiesel.